

**A. Amendments to the Specification**

**SUMMARY**

At page 3, after “Summary”, please amend the following paragraph:

[0007] In one general respect, embodiments of the present invention are directed to a garment suitable to be worn on an upper body portion of a person. The garment includes a base fabric having a front portion and a rear portion formed with openings for the person’s arms and head and having a breast portion on the front portion; and a first protective panel attached to the breast portion of the base fabric; wherein the first protective panel is adapted to protect the upper body portion of the person during descent from a vertical surface.

## DESCRIPTION

Please renumber original paragraphs [0007] to [0024] as paragraphs [0008] to [0025], respectively.

Please amend the originally numbered paragraphs as follows:

[0011] Turning now to Figure 1, various embodiments of the present invention described herein, among others, are generally directed to a protective garment 10 suitable to be worn on the upper part of a human body. The garment 10 has a collar 11, sleeves 16, and front opening 13. The protective garment 10 may be worn by a person while working in an elevated environment on, for example, a wooden or steel utility pole or other surface or while ascending or descending the surface. The protective garment 10 according to various embodiments of the present invention ~~may comprises~~ lightweight penetration resistant protective panels 12 stitched, sewn, laminated, or otherwise attached to breast portions 14 of the protective garment 10. The protective garment 10 also may comprise forearm portions or sleeves 16 that may include additional protective panels 12. The sleeved protective garment 10 may comprise coats, jackets, shirts, and the like.

[0012] Figure 2 illustrates various embodiments of a sleeveless protective garment 20. The protective garment 20 is suitable to be worn on the upper part of a human body and ~~may includes~~ a collar 21 and a front opening 23. The sleeveless protective garment 20 also ~~may comprises~~ the protective panels 12 in ~~the~~ a breast portion 22. The sleeveless protective garment 20 ~~may includes~~ vests that may be worn in various types of temperature environments.

[0013] In various embodiments of the present invention, the protective garment 10, 20 may be constructed of a flexible base garment comprising the ~~splinter and abrasion~~ penetration resistant protective panels 12. The protective garment 10, 20 may be constructed of a lightweight, stretchable, breathable, and comfortable fabric to accommodate the environmental conditions encountered by the workers. For example, to accommodate colder working

environments the base garment may be constructed of heavier materials such as cotton, wool, polyester/wool blend, polyester/cotton blend and other similar heavier materials. The heavier material also may include some form of heat insulating material. In warmer working environments the protective garment 10, 20 may be constructed of lightweight porous materials. Suitable materials for the base garment may give or stretch to a certain degree to aid in the wearer's comfort.

[0014] In various embodiments of the present invention, the ~~flexible~~ protective garments 10, 20 may be formed of a plurality of conventional fibers such as cotton, polyester, nylon, and any blends thereof. The protective garments 10, 20 also may be formed of a lightweight fabric, coated fabric, and/or fabric/laminate that is lightweight, waterproof, windproof, and breathable such as GORE-TEX® fabric, for example. The protective garments 10, 20 also may comprise a nylon outer shell fabric that is laminated to a waterproof, windproof, breathable membrane such as a GORE-TEX® membrane, for example. The protective garments 10, 20 also may comprise a two-ply nylon shell GORE-TEX® fabric. The protective garments 10, 20 also may comprise lightweight breathable features for higher temperature climates as well as insulated features for colder temperature climates such as a quilted lining with fiberfill insulation, for example. GORE-TEX® is manufactured by W. L. Gore & Associates of Newark, Delaware.

[0015] Figure 3A illustrates various embodiments of a protective garment in the form of a glove 30. The glove 30 ~~may includes~~, for example, a first hand portion 32 comprised of the same protective material that the protective panels 12 are constructed from. The glove 30 also ~~may includes~~ a second forearm portion 34 attached to the hand portion 32. The forearm portion 34 also ~~may includes~~ a protective panel 12 to protect the wearer from injuries due to splinters and abrasion. The hand portion 32 of the glove 32 may be constructed of a stretchable flexible material while the forearm portion 34 may be constructed of a more durable material.

[0016] Figure 3B illustrates another embodiment of a protective garment in the form of a glove 36 with open fingertips for added flexibility, dexterity and to minimize weight and energy retention. The glove 36 also ~~may includes~~, for example, a first hand portion 38 comprised of the same protective material that the protective panels 12 are constructed out of. The glove 36 also ~~may includes~~ the forearm portion 34 attached to the hand portion 38. The forearm portion 34 also ~~may includes~~ a protective panel 12 to protect the wearer from injuries due to splinters and abrasion. The hand portion 38 of the glove 36 may be constructed of a stretchable flexible material while the forearm portion 34 may be constructed of a more durable material.

[0017] In various embodiments of the present invention, the protective panels 12 may be formed of a flexible lightweight heavy-duty penetration resistant material suitable for protecting the wearer against abrasion and splinters while falling from a utility pole with arms around the pole. In various embodiments of the present invention the protective panels 12 may be constructed of a thin, lightweight, low friction, flexible, and smooth material so that they are comfortable to the wearer of the protective garments 10, 20 and do not hinder the wearer's freedom of movement. The protective panels 10, 20 material also may be thin and porous to accommodate workers in higher temperature environments.

[0018] Turning now to Figure 4, in various embodiments of the present invention the protective panels 10, 20 may be formed of single (mono-layer) or multi-layer high performance natural or synthetic materials that are lightweight, strong, and heat-resistant. For example, the protective panels 12 may be formed using a single ply 40 or multiple plies 42 of fabric woven from any of the aramid high performance fibers listed above. The protective panels 12 may be formed of one to thirty-two plies, for example. In various embodiments of the present invention, the protective panels 12 also may be formed of 3 or 4 plies, for example. Some synthetic aromatic polyamide materials that may be fashioned into high tenacity fibers, filaments, or sheets and used in textiles also may be used to form the protective panels 12. One such class of synthetic fibers that may be suitable for making the protective panels 12 is commonly referred to

as aramid fiber. Fabrics made from high performance aramid fibers may be suitable for fashioning the protective panels 12 that are splinter and abrasion resistant. There are many commercially available high performance aramid fibers that may be used to weave fabrics suitable for making splinter and abrasion resistant protective panels 12. Any type of fiber, including those not mentioned herein, may be used to make the protective panels 12 according to various embodiments of the present invention. As discussed previously, the protective panels 12, whether formed of the single ply layer 40 or the multiple ~~ply-layer~~ plies layer 42, may be attached to a base fabric 44 of which the protective garments 10, 20 ~~is~~ are constructed. The individual single ply layers 40 ~~in or the multiple ply-layer~~ plies 42 fabric may be attached to each other by, for example, laminating, stitching, sewing, and other suitable means of attachment. The protective panels 12 also may be stitched, sewn, laminated, or attached to the base fabric 44 using any suitable means.

[0019] As discussed previously, the base fabric 44 may be formed of a plurality of conventional fibers such as cotton, polyester, nylon, and any blends thereof. The base fabric 44 also may be formed of a lightweight fabric, coated fabric, and/or fabric/laminate that is lightweight, waterproof, windproof, and breathable such as GORE-TEX® fabric, for example. Base fabric 44 also may comprise a nylon outer shell fabric that is laminated to a waterproof, windproof, breathable membrane such as a GORE-TEX® membrane, for example. The base fabric 44 also may comprise a two-ply nylon shell GORE-TEX® fabric.

[0020] Examples of high performance aramid fibers that may be suitable for weaving fabrics for making the protective panels 12 include, but are not limited to Kevlar®, an organic fiber produced by the DuPont Corporation of Wilmington, Delaware, which is a light structural fiber that provides impact resistance. One type of Kevlar® fabric that may be suitable for constructing the protective panels 12 according to one of many embodiments of the present invention includes a style 779 aramid high performance fabric available from Hexcel Schwebel of Stamford, Connecticut. The 779 aramid fabric comprises a Kevlar® 159 yarn that is 200

denier mesh. The fabric weighs 3.9 oz/yd<sup>2</sup> and is of plain weave style. The nominal construction of the style 779 fabric comprises a warp count and fill count of 70 yarns/inch. The fabric may have a thickness of 6.0 to 8.0 mils, a breaking strength of 385 lbf/in and is suitable for safety and personal protection applications. The Kevlar® protective panels 12 will not burn although they may melt at 900° F. Also, the Kevlar® protective panels 12 may be treated to make them water repellant.

[0021] The protective panels 12 also may be made from fabrics woven from other fibers such as, for example, Twaron®, a high strength fiber made from aramid polymer supplied by Accordis of Arnhem, The Netherlands. This fiber is similar to Kevlar® and is a useful material for reinforcement and splinter and abrasion resistance applications. Yet another fiber that may be used to weave fabrics for making the protective panels 12 includes Spectra®, which is an ultra lightweight, high strength polyethylene fiber developed by Honeywell International Corporation of Morristown, New Jersey. Spectra® fibers provide high damage tolerance and flexibility. Another fiber that may be used to weave the fabric to make the panels is Zylon®, which consists of a rigid chain of molecules of ploy (p-phenylene-2, 6-benzobisoxazole)(PBO). This fiber is available from Toyobo of Osaka, Japan.

[0022] Figure 5 illustrates various embodiments of a protective garment 50 suitable to be worn on the upper part of a human body having a collar 51, sleeves 54, and front opening 53. The protective garment 50 includes the protective panels 12 in ~~the~~ a breast portion 52 as well as ~~the forearm/sleeve portion~~ sleeves 54. The protective garment 50 also ~~may~~ includes a variety of pockets 56, 58 designed to hold items that may be useful to a worker while working in elevated environments such as up on a utility pole. The protective garment 50 also ~~may~~ includes carry loops 60 that may be useful for carrying additional tools up on the utility pole. The variety of useful items may include, for example, wire connectors, wire, tone probe, pullers, and safety related items and equipment. The pockets 56, 58 and loops 60 also may be useful for carrying hardware such as “J” and “P” hooks, hammers, powder drivers, meters, small blocks, cable

clamps, drop wire clamps, strand connectors, dead end wire, earmuffs, flashlights, safety and sunglasses, gloves, hat liners, nut drivers, bridle rings, tags, and screws. The protective garment 50 also ~~may include~~ attachable and detachable structural members 62 that are designed to secure the bottom of the protective garment 50 to the worker's climbing safety belt to minimize the likelihood of the protective panels 12 rising up the worker's body while descending and hugging a pole. The attachable and detachable structural members 62 may include for example loops, buttons, snaps hooks, and hook and loop fasteners such as Velcro®, for example, and other suitable means for attaching and detaching the protective garment 50 to the safety belt.

**[0023]** Figure 6 illustrates various embodiments of a sleeveless protective garment 64 that is similar to the protective garment 50 shown in Figure 5 except for the sleeves. The protective garment 64 may be suitable to be worn on the upper part of a human body and may include a collar 61 and a front opening 63. The sleeveless protective garment 64 also ~~may~~ comprises the protective panels 12 in ~~the~~ a breast portion 66. The sleeveless protective garment 64 may include vests that may be worn in various types of temperature environments. The sleeveless protective garment 64 also may include a variety of pockets 56, 58 and loops 60 for carrying useful items and also includes the attachable and detachable structural members 62 to secure the bottom of the protective garment 60 to the worker's climbing safety belt.

**[0024]** Although the present invention has been described with regard to certain embodiments, those of ordinary skill in the art will recognize that many modifications and variations of the present invention may be implemented. The foregoing description and the following claims are intended to cover all such modifications and variations. Furthermore, the components and processes disclosed are illustrative, but are not exhaustive. Other components and processes also may be used to make systems and methods embodying the present invention.